

## How to Reduce Health Risks

- **Substitution.** The best way to reduce exposure is to switch to products that do not contain 1-bromopropane.
- **Using less.** If 1-bromopropane products must be used, quantities should be kept as small as possible, and containers should be kept closed between uses.
- **Other engineering controls.** Vapor degreasing systems should include controlled hoists, effective cooling coils and lids.
- **Ventilation.** Make sure that there is good ventilation. Local exhaust ventilation is most effective because it captures contaminated air at the source.
- **Personal protective equipment.** Aprons, gloves, goggles and respirators approved for use with organic chemicals can be effective in helping workers avoid exposure.
- **Respiratory protection.** Respirators may be used only if ventilation and other control methods are not effective and feasible.

**Requirements for Employers:** Even if a chemical is not regulated by an OSH standard, employers are still required to “furnish ... conditions of employment and a place of employment free from recognized hazards.” Employers also must ensure that employees do not suffer illness or injury from the use of any chemical agent.

**Rights of Employees:** If you think you may be exposed to 1-bromopropane on the job, ask to see the material safety data sheets (MSDS) for the products you are using. The MSDS for a product that contains 1-bromopropane must identify it in Section 2, by the CAS number 106-94-5. 1-Bromopropane is also called n-propyl bromide. Some MSDSs do not fully describe the hazards of the product. Your employer must tell you if you are working with 1-bromopropane and must train you to use it safely (ref. Hazard Communication Standard, Subpart Z 1910.1200, Toxic and Hazardous Substances).

Copies of safety and health standards for 29 CFR 1910 (General Industry) and 29 CFR 1926 (Construction) are available from NCDOL/ETTA upon request. Publications can also be ordered online ([www.nclabor.com](http://www.nclabor.com)).

For more information concerning education, training and interpretations of occupational safety and health standards contact:

### ***Bureau of Education, Training and Technical Assistance***

Fourth Floor, Old Revenue Building, Raleigh N.C.  
Telephone: (919) 807-2875 Fax: (919) 807-2876

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### ***Bureau of Consultative Services***

Third Floor, Old Revenue Building, Raleigh, N.C.  
Telephone: (919) 807-2899 Fax: (919) 807-2902

**Mailing Address:** 1101 Mail Service Center, Raleigh NC 27699-1101

**N.C. Department of Labor Web Site:** <http://www.nclabor.com>

**Toll Free Number:** 1-800-NC-LABOR (1-800-625-2267)

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1. American Conference of Governmental Industrial Hygienists, 2005.
  2. Yu, et al. Preliminary Report on the Neurotoxicity of 1-Bromopropane, an Alternative Solvent for Chlorofluorocarbons, J. Occup Health 1998; 40:234-235.
  3. Ichihara, et al. Neurological Disorders in Three Workers Exposed to 1-Bromopropane, J. Occup Health 2002; 44:1-7.
  4. ICSC:1332, International Programme on Chemical Safety and the Commission of the European Communities.